what I said in Detroit upon receiving the presidency for the second term, "that in our calling in life there is no North, South, East or West." And it appeared evident after my address explaining more fully our aims and objects together with what we had accomplished in the short period of our existence, that all greenkeepers realized we were travelling along sane and progressive lines.

The greenkeepers of America have every reason to feel elated that three former presidents of the United States Golf Association and Mr. Findlay Douglas, president at this time, have taken an interest in our personal welfare. Among them are W. C. Fownes, Jr., of Pittsburgh, Mr. Phiel of Memphis, Tenn., Mr. Melvin Traylor of Chicago. We are greatly indebted to Mr. Douglas, though he had other pressing engagements which naturally occur during a National Tournament, that he was able to attend the dinner. His able address congratulating us for what we are doing in the interests of golf was at the close loudly applauded. T. H. Riggs Miller moved that Mr. Douglas be made an Honorary member of the National Association of Greenkeepers of America which was unanimously carried. Mr. Douglas in a few well chosen words thanked the greenkeepers and accepted the Honorary membership.

The meeting and dinner was under the supervision of Hugh Luke and Hugh made a very fine presiding officer. He later called upon the members of the executive committee and several greenkeepers for a few remarks. Fred A. Burkhardt, Westwood Country Club, Cleveland, who has piloted two successful Golf Shows informed those present that the next Golf Show, which will be held in February at Louisville, Ky., would far surpass any previous show and promised the boys that he would have another stag affair and also a dance in connection with the banquet.

George Davies of Big Spring Golf Club, Louisville, whom every greenkeeper knows, stated that Louisville would be thrown wide open for us during the week of the Golf Show. John McNamara, our genial treasurer hailing from the Pittsburgh Field Club, Aspinwall, Pa., spoke very entertainingly on the progress we are making and that fiery little chap, Lewis M. Evans, Cedarbrook Country Club, Mt.

---

**Milwaukee Milorganite**

*IDEAL TURF FERTILIZER*

**Improves Established Fairways**

Proper feeding is the basis of turf improvement on fairways.

Turf on starved fairways first becomes thin, followed by infestation with moss, dandelion, plantain, and other undesirable weeds.

Clover invasion indicates nitrogen starvation.

Turf improvement should begin this fall.

Milorganite applied in September will effect marked improvement before winter, and benefits extend into the following year.

We are prepared to help devise an effective and economical program of fairway improvement.

For further information address

**The Sewerage Commission**

508 Market Street Milwaukee, Wis.
Golf Maintenance Experts

Find Profit in Jacobsen Power Mowers and Greens Brush


C. D. Wagstaff & Company maintain these courses in a manner satisfactory to the most critical golfer and at a big saving to the clubs, at the same time, making a profit for themselves—striking evidence of the economy and efficiency of Jacobsen Mowers.

Are Your Greens Matted?

Thousands of Clubs the country over are benefiting by the use of Jacobsen equipment. The greens brush attachment has been enthusiastically received by greenkeepers everywhere. It keeps the grass from matting, aerates the soil and helps control brown patch.

Valuable FREE Booklet

Send for your copy of "Modern Equipment for Putting Green Upkeep." See what wonders this new mower and brush attachment will do for you. Write or wire for actual demonstration at our expense.

Jacobsen Mfg. Co.
DEPT. 11
RACINE, WISCONSIN
New York Office: 807 West 56th Street

Airy, Philadelphia with his usual sharp and constructive thoughts was well received. Lew, as we call him, always hit the nail right on the head. Owing to pressing engagements at their club, Wm. J. Sansom, Toronto Golf Club, Toronto and Joe Valentine, Merion Cricket Club, Philadelphia were unable to remain for the dinner.

We were very sorry to have word from our first vice-president, John MacGregor, Chicago Golf Club, Chicago and our secretary, John Quaill, Highland Country Club, Pittsburgh that it would be impossible for them to get away from their courses and we certainly did miss them.

We had hoped to hear a few remarks from Mr. Robert E. Power, president of the National Greenkeeper, but other engagements caused him to leave immediately after the address of President Findlay Douglas. Mr. Power had with him several well-known newspaper writers, including Mr. John Dietrich, Golf Editor, Cleveland Plain Dealer and Chester L. Smith, Golf Editor, Cleveland Press.

We were elated to meet at Winged Foot, Alex Pirie, president of the Professional Golf Asso-

We are sole wholesale distributors of

PRINCE EDWARD ISLAND BENT GRASS SEED

in the United States

VERY hardy and thrives with less water than creeping bent.

Redtop and Ky. Blue Grass Fescues and White Clover

All varieties of Bent

A full line of Seeds and Supplies

The J. M. McCullough’s Sons Co.
316 Walnut St.
Cincinnati, Ohio

Receivers and Specialists in Grass Seeds for 91 years

SAY YOU SAW THE AD IN THE NATIONAL GREENKEEPER
ciation and a member of the National Association of Greenkeepers of America. Alex would have attended the meeting and dinner, but had to return to Chicago the night preceding. Alex's brother, John Pirie helped to make up for his loss for John certainly did all he could to entertain us. We were also pleased to meet Doctor John Monteith, Jr., and Kenneth Welton of the Research Committee of the Green Section.

Among those who were on hand as usual to see that we would not get lost was one of our Charter members, Alfred E. Lundstrom, Crescent Athletic Club, Brooklyn, N. Y. After the meeting was over we were escorted to our hotel by my friend, Arthur D. Peterson, which gave us an opportunity to view greater New York after midnight.

Before returning home we spent a few pleasant hours at the seashore and we all felt on departing that the treatment received by the New York boys would be one we would long remember, and in behalf of our association we extend through the National Greenkeeper our sincere appreciation.—John Morley.

**The SAFE Treatment**

For Preventing Wormcasts

"ELECTRIC" Worm Eradicator does a thorough job—brings the worms to the surface, where they can be swept up. Dead worms in the soil cause trouble. You can safely use "ELECTRIC" on the finest greens. It stimulates growth of the grass and protects turf against "brown patch." One treatment will suffice for the remainder of the season.

Write for free Folder and Prices

We gladly ship on approval

READE MANUFACTURING CO.
195 Hoboken Ave. Jersey City, N. J.

**ECONOMY SPRINKLERS**

Most Efficient Sprinkler for its cost

THE ECONOMY SIMPLEX

Under all conditions with moderate water pressure, the Economy Simplex is outstanding as an efficient sprinkler. It is simple in design and construction, yet extremely durable. It is adaptable to any type of watering giving good coverage and even distribution of water. Unexcelled for its purpose.

The Economy President, used with water pressure about 40 pounds, is without a peer in the sprinkler field. It gives even distribution and greatest coverage. Slow speed. Gearless. Has long life. Ideal head for hoseless systems. Equipped with either sled or roller base.

THE ECONOMY PRESIDENT

The Economy Traveler, Spectacular, Super Simplex are also well known as correct watering equipment on thousands of golf courses. See our nearest dealer or write us.

ECONOMY IRRIGATION CO., Inc.
21 Spokane St., Seattle, Wash.
Distributors in leading American and Canadian cities
Beetles at Cedarbrook

Noted Philadelphia greenkeeper describes early experiences with the Jap beetle and methods used in combating its ravages. Arsenate of lead only cure known.

By LEWIS M. EVANS, Greenkeeper

I CAN distinctly remember three years ago when one of my greensmen found a Jap beetle on one of the greens. It surely was a curiosity and how we crowded around to examine the first specimen at Old Cedarbrook. True our neighbors across the Delaware at Riverton, New Jersey were badly infested and even then Torresdale on the Pennsylvania side was passing through a severe siege.

The United States Experimental Station was then at Riverton, N.J. and was in charge of a man whom we all know and respected, Mr. B. R. Leach. The Philadelphia Greenkeepers' Association had gone over to Riverton a couple of times and saw the wonderful progress that had been made in the mastering of this new pest of golf courses.

I might add that at this time arsenate of lead had ceased to be an experiment but was the only known thing that positively would eliminate the grub. As one who has passed through the beetle siege I feel that this is the proper time to give credit to Mr. Leach for having given us arsenate of lead, for in addition to its value in exterminating the grub and beetle it also has a wonderful value in worm and chickweed control. In spite of arguments to the contrary I do believe it will control crab

---

Grass Seed

of Known Quality

TESTED for PURITY and GERMINATION

South German Bent Colonial Bent Rhode Island Bent
Cocoos Bent Special Putting Green Bent Formula
Superfine Fairway Formula (with Bent) Bent Stolons

Prices on the above, or any other turf producing grasses, on request.

Stumpp & Walter Co.
Specialists in Golf Grass Seeds and Equipment
30-32 Barclay St., New York

---

THE "LARK"

Sprinkles Evenly from center to outside circumference on Any pressure.

The "Lark" Sprinkles Evenly
125 ft. on 50 lbs. pressure—90 ft. on 35 lbs. pressure
100 ft. on 40 lbs. pressure—80 ft. on 25 lbs. pressure
60 ft. on 15 lbs. pressure.

The New Rotor Control Valve controls the speed of the Rotor and the quality of its spray under varying pressures. It eliminates those smoky sprays that are often lost in the breeze. It prevents excessive wear of the Rotor bearing. The Self-Flushing Screen keeps all sediment away from the Rotor, preventing any clogging. All sediment passes out through the larger Main Stream Nozzle.

L. R. NELSON MFG. CO., PEORIA, ILL.
and fall grass if used as directed by him.

But to get back to Cedarbrook. The novelty of finding that first beetle soon wore away as many others came along that first year. We started using lead on our greens and the effect on worms and chickweed was at once apparent. If I recall rightly I think we put it on in several applications that first year, about thirty-five pounds to a green.

The second year found us using the necessary precautions insofar as our greens were concerned making several applications of lead even before the beetles came out of the ground. When they did finally come out the sight was one you never forget.

There were signs of great damage done the turf by the grubs the previous fall and spring. You just watched the place “melt away” as it were and the course that you had been mighty proud of took on a barren look. The government test showed thirty-seven to the square foot that fall and we were horrified. But the worst was yet to come.

That fall we brought Mr. Leach in to advise us in our troubles and he said, “get busy with the lead.” We put five thousand pounds of lead on with thirteen tons of Milorganite and in addition to this we brought in a landscape concern that sprayed all the foliage on the trees just previous to leading the fairways.

This year found us better prepared to combat the pests for we doubled the number of traps, bought a large sprayer and put another eight thousand pounds of lead and fifteen tons of Milorganite on the fairways. The beetles arrived a couple of weeks ago in great numbers but so far we have kept the damage (except in our rough) down to a minimum. The damage to our rough can best be explained by saying that we have not leaded it and the recent test showed eighty-four grubs to the foot.

In conclusion I would advise that as soon as you see that first one get busy and don’t fool yourself that fate may be much kinder to you and you won’t need Mr. Leach’s advice or any arsenate of lead. Profit by the mistakes we have made in the present “beetle zone” and get after them when the army is small and it doesn’t take so much powder to knock them off. Let the watch word be, “Fight with the weapon, Arsenate of Lead” and in time you can master them.

---

The New England Amateur, too, on a Pennsylvania-cut Course!

When the New England Amateur was played last month at Hartford, another addition was made to the long list of championship tournaments which have been contested on Pennsylvania-cut courses. For 1929 alone, this list includes, among others, both the National Open at “Winged Foot” and the British Open at Muirfield, Scotland.

Write for your copy of attractive GOLF CATALOG containing full details on the “New” Fairway Mower shown above, the Super Roller Greens Mower shown below, the New Aristocrat greens mower and the other Pennsylvania Quality Mowers for Golf Courses.

Pennsylvania Lawn Mower Works
1645 North 23rd Street

Pennsylvania Quality Lawn Mowers

---

SAY YOU SAW THE AD IN THE NATIONAL GREENKEEPER
BROWN-patch, although generally believed to be fungoid in origin actually is caused by a native beetle known as Cyclocephala. The writer has watched this beetle very carefully at night when on the greens. The beetle does not attack foliage or fruit trees, but seems to live entirely on grass roots.

The turf which seems most attractive to the beetle is one which contains the bents and sheep's fescue. Creeping bent seems to offer better feeding and more protection during the winter months. The fact that we do not have brown-patch except during the months of May, June, July, August and September is because it is only during these months that the Cyclocephala beetle comes out from under the sod.

The first flight of the beetle is probably the strongest and I believe these beetles swarm during the warm months about every three weeks. The young of the first flight will swarm again later, and so on until the weather is against them. Now the closely cut turf of a putting green makes an ideal mating place if the beetles are undisturbed by watering, but if water is kept running freely from sprinklers the beetles will not remain on the greens.

On examining other courses on Long Island I have found the same beetle. The variety seems to be increasing, and—curiously enough—they seem to travel in a north-easterly direction; six of my greens were not attacked the first year or so, but the last two years these greens, which are to the north-east, have been worse for brown-patch.

It is not unusual for the beetles to leave a green entirely alone, although perhaps it may be alongside one which is badly attacked. This is one of the strange things about the animal, and then again, strong winds will blow it in almost any direction. This may account for one green to be attacked and not another.

It is not at all unusual to pick up thousands of these beetles after dark on a moonlight night. They are as plentiful then as the small white grub is when you lift a layer of turf that is grub-infested.
There is no question in my mind but that the brown-patch is caused by the swarming of the Cyclocephala beetles on the turf, and that in swarming they are laying their eggs which develop into white grubs; the grubs in due time developing into beetles. Both generations, beetles and grubs, are harmful to turf.

About Winged Foot
By Lewis M. Evans

To those of us who were fortunate enough to attend the National Open at Winged Foot this year I feel safe in saying that we will always carry a mental picture of that wonderful crowd (numbering thousands), and the able manner in which they were handled.

This article would not be complete without some reference to the man who for months had licked the place into shape for that wonderful event. I can form some idea of what John Elliffe's thoughts must have been as the weatherman failed to help along Nature for weeks prior to the event, of a water system that also failed when it was most needed and necessitated bringing water from another source, those hours of mental torture that we all go through in brown patch weather and many other things that all go with events of this kind.

If there was anything wrong with Winged Foot it was something over which man has no control.

Do your drains resist impact and frost year after year?

Schools require drainage systems that give service year after year. Construction, therefore, must be planned that will resist the elements and the most unusual conditions of use, so that grounds will be ready for play at all times, except during actual hours of storm.

Dependable drainage can be assured by the use of Armco Perforated Iron Pipe. Because it is flexible this pipe will withstand impact from trucks, rollers and other heavy equipment. Actually it can be frozen solid without the slightest damage.

Ground water enters the pipe through a number of small holes in the bottom of each corrugation and not through the joints. This permits the pipe to be connected into one continuous length with joints that cannot open up and block the pipe with soil deposits.

Complete information on Armco Perforated Pipe for schools, athletic field and playground uses is available on request. Send for it today.

Armco culverts and drains are manufactured from the Armco Ingot Iron of The American Rolling Mill Company and always bear its brand.

ARMCO CULVERT MFRS. ASSOCIATION
MIDDLETOWN, OHIO

Do your drains resist impact and frost year after year?

Schools require drainage systems that give service year after year. Construction, therefore, must be planned that will resist the elements and the most unusual conditions of use, so that grounds will be ready for play at all times, except during actual hours of storm.

Dependable drainage can be assured by the use of Armco Perforated Iron Pipe. Because it is flexible this pipe will withstand impact from trucks, rollers and other heavy equipment. Actually it can be frozen solid without the slightest damage.

Ground water enters the pipe through a number of small holes in the bottom of each corrugation and not through the joints. This permits the pipe to be connected into one continuous length with joints that cannot open up and block the pipe with soil deposits.

Complete information on Armco Perforated Pipe for schools, athletic field and playground uses is available on request. Send for it today.

Armco culverts and drains are manufactured from the Armco Ingot Iron of The American Rolling Mill Company and always bear its brand.

ARMCO CULVERT MFRS. ASSOCIATION
MIDDLETOWN, OHIO

© 1929-A.C.M.A.
Winged Foot—A Tough Course

By ROBERT E. POWER, Editor

WINGED FOOT is a tough golf course. Not so long perhaps in total yardage as some others but so laid out that every shot must be played with accuracy and judgment.

We saw it at its worst during the Open Championship. For five weeks there had been no rain and the fairways, which in many places consist of a thin layer of soil on solid rock, were in spots fairly cooked to a crisp. Greenkeeper, John Elliffe had done his best and the tees, greens and approaches where he could water were in splendid shape. But Nature had taken command of the open spaces and the going was not by any means easy even for the champions.

Late Friday afternoon a steady downpour of rain set in so that Saturday saw a vast improvement in turf conditions through the green. That was the only break John Elliffe got—everything else was against him.

Winged Foot stands out because of the exacting shots to the greens. They are long, narrow and tightly bunkered. With a strong wind blowing every day from the westerly quadrant, and all but one hole, the short 10th, running approximately north and south, the players were hard put to keep their iron shots on the line. Time after time I saw fine irons hit from the tree-bordered fairways that seemed to be splitting the pin until they reached the open space near the green when the wind blew the ball off the line into the deep pit bunkers which hugged the putting surface.

Winged Foot was designed by Mr. A. W. Tillinghast who talked to me quite freely about its architectural features.

"I purposely made Winged Foot difficult for the par shooter," he said, "and easy for the average golfer. With a few exceptions the par four holes require long accurate drives to bring the player near enough to the greens to make sure of his second shot. Many of the fairways, particularly in the wooded section, bend slightly to the right or left so that the long hitter must hug one side or the other on his tee shot in order not to be in the rough on the other side. Extreme distance is not as necessary as straight hitting and that is where Farrell, Hagen and several of the other good professionals got into trouble."

The fairways at Winged Foot are mostly blue grass and fescue of a very fine strain while the greens are mixed bent and fescue grown from seed. The course is only six years old, having been opened in June, 1923, so that it is probably the youngest course the Open Championship was ever played on. Even so, it stood the test and as time goes on and the turf matures and thickens it will rank with the best tournament golf courses in the world.
Par 4

A DRIVE placed to the right-center of the fairway opens the green to a 2 or possibly 3 iron. Off the course on the left presents a hazardous second. The trap to the right of the fairway catches a drive of less than 200 yards. Long grass and traps on the left will cause the loss of a stroke for the second to the green unless the drive is centered. A tall tree with a trap at the foot must be carried. On both flanks the green is bunkered.

No. 1

445 Yards
The green shows its best face to the short approach after a long drive down the left. Holding the green after a pushed drive down the right is not easy. A sharp faced bunker cutting into the green makes this second shot a test of delicacy. This green, like most of those at Winged Foot, does not punish the player who goes over.